

PREVENTION RESEARCH CENTERS



A Bridge to Health Action



U.S. DEPARTMENT
OF HEALTH AND
HUMAN SERVICES



Centers for
Disease Control
and Prevention

Why *Invest* in Prevention Research?

Effective ways to promote health, prevent disease, and manage complications of illness and injury evolve over time. Which strategies are best depends on many factors, including personal behaviors, cultural values, social and environmental conditions, and type of disease.

CDC's network of Prevention Research Centers brings academic researchers, community members, and public health agencies together to collaborate on developing effective strategies. Findings are tested and applied in the field so that real-world influences are accounted for, all available resources are tapped, and both researchers and communities expand each other's capacity for addressing health

issues. When professionals from state and local public health programs are involved, their capacity to protect society increases as well. As research matures, the partners assess how to sustain different strategies and whether they can be used in other communities.

With their partners, prevention researchers continually find new ways to help people live long, healthy lives and save millions of dollars in costs from chronic illness.



Funded research results in nearly 500 ongoing projects a year across the 33 centers.



What Is Prevention Research?

At biomedical research centers, researchers look for the causes of or contributors to disease. For example, researchers found years ago that people with diets high in saturated fat develop clogged blood vessels, which makes them vulnerable to heart disease. These scientists continue to study the effects of diet, explore genetic and other factors that put some people at particular risk, develop drugs to counteract harmful dietary effects, and test medical procedures that can sustain life for people already suffering from disease.

At Prevention Research Centers, researchers and their community partners look for ways to help entire groups of people make changes in themselves and their communities so that they can *avoid* the risk for chronic illnesses, such as heart disease, and disability from unhealthy practices.

Like their biomedical counterparts, prevention researchers address a wide range of diseases and conditions. They tend to follow a process that can lead to the widespread use of effective prevention strategies.

At any given time, the Prevention Research Centers' projects are in different stages. New centers may be in very early stages of building community trust. More mature centers have conducted research and disseminated findings, and their tested interventions are widely used.

Basic Steps of Participatory Research

In taking each of the following steps, the researchers work hand in hand with communities and mutually agree on decisions.

1

Assess community health needs and define the health problems.

Conduct surveys and focus groups, analyze data, consult with community coalitions and advisory boards, and use other qualitative methods to identify a community's health needs.

2

Gain a solid understanding of the problem and inform each other about the factors that must be addressed.

3

Decide on the most promising intervention.

Design new interventions or review the scientific literature for proven interventions likely to be successful when adapted to the community. Consider influences, such as acceptance by the community, feasibility of the activity, and sensitivity to cultural mores.

4

Pilot test the intervention.

Create and test educational materials, questionnaires, skill-building sessions, and other tools and techniques for delivering an intervention. Assess the intended audience's response and how reliable and valid the preliminary outcomes are.

5

Deliver and test the intervention in a selected group.

Recruit a subset of people who represent the population and evaluate the effect of the intervention against results from a control group. Use methods to make sure any bias in the results is minimal.

If the intervention *does not* seem effective, the researchers may report the lessons learned and make changes for further testing.

If the intervention is effective, the researchers move to the next step.

6

Test the effectiveness of the intervention in a large population.

Carry out the intervention to determine how effective it is when put to the test in a large, true-to-life setting. Assess whether the intervention effect is reliable and valid and produces a meaningful public health impact.

If the intervention is effective, the researchers move to the next step.

7

Conduct dissemination research.

Explore questions related to the research intervention—for example:

Is it sustainable over at least 5 years? If not, what contributed to the loss of effect?

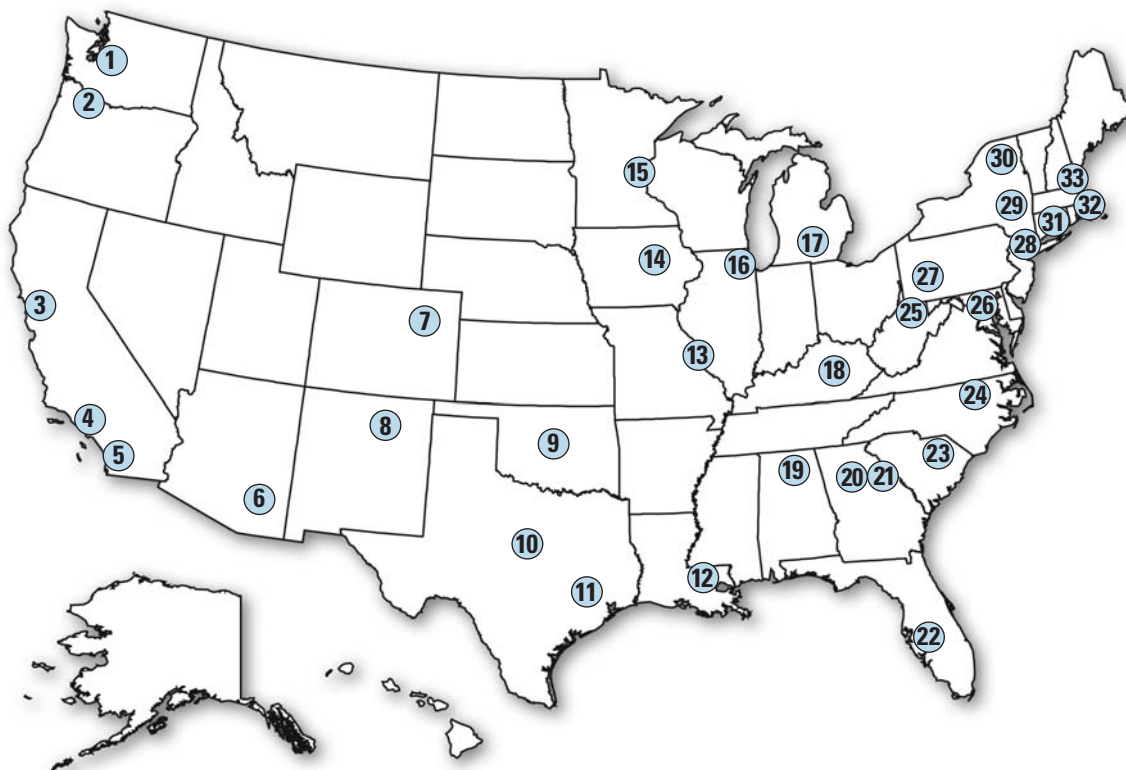
What conditions influence whether the intervention is adopted for long-term use?

Can the intervention be replicated in a different environment and still be valid?

8

Communicate about the research.

Share information about the methods and the outcomes with researchers, practitioners, and the communities involved.



- 1 University of Washington at Seattle
- 2 Oregon Health & Science University
- 3 University of California at Berkeley
- 4 University of California at Los Angeles
- 5 San Diego State University
- 6 University of Arizona
- 7 University of Colorado
- 8 University of New Mexico
- 9 University of Oklahoma
- 10 Texas A&M University
- 11 University of Texas Health Science Center at Houston
- 12 Tulane University
- 13 Saint Louis University
- 14 University of Iowa
- 15 University of Minnesota
- 16 University of Illinois at Chicago

- 17 University of Michigan
- 18 University of Kentucky
- 19 University of Alabama at Birmingham
- 20 Morehouse School of Medicine
- 21 Emory University
- 22 University of South Florida
- 23 University of South Carolina
- 24 The University of North Carolina at Chapel Hill
- 25 West Virginia University
- 26 The Johns Hopkins University
- 27 University of Pittsburgh
- 28 Columbia University
- 29 State University of New York at Albany
- 30 University of Rochester
- 31 Yale University
- 32 Boston University
- 33 Harvard University



Where Are the Prevention Research Centers Located?

CDC provides core support to 33 academic-based research centers from coast to coast. The Prevention Research Centers work on health issues affecting people from rural towns and inner cities, children and the elderly, recent immigrants and Native Americans. People in underserved communities are often most affected by disease or disability, but they are not traditionally involved as *partners* in research. In the Prevention Research Center Program, community members and local organizations from some of the most disadvantaged communities are active participants in research.

What Kinds of *Partnerships* Are Built?

Each Prevention Research Center partners with at least one community committee, which has many responsibilities:

- Articulate community values.
- Contribute to research priorities.
- Help recruit partner organizations.
- Participate in delivering interventions and communicating results.
- Reflect local attitudes and beliefs.



The partnerships are based on mutual respect and build trusting relationships. The benefits of these relationships, which can take years to develop, include the community's

- Understanding of and support for research.
- Enhanced capacity for addressing health issues.
- Increased likelihood of adopting and sustaining successful interventions.
- Serving as a model for comparable communities in which research can be replicated.

The community relationship often becomes one that other researchers and practitioners can build on for addressing additional health issues.



Examples of *Research* Partners

Institutional

- ❖ State and local departments of Health
Education
Parks and Recreation.
- ❖ Managed care alliances and health maintenance organizations.
- ❖ Primary and secondary public schools.
- ❖ Tribal governments.
- ❖ National organizations.
- ❖ Community nonprofits.
- ❖ Businesses and work sites.

Community

- ❖ African Americans and Latinos in Harlem.
- ❖ Schoolchildren in Texas.
- ❖ Adolescents in Baltimore.
- ❖ Public housing residents in Boston and New Orleans.
- ❖ Mexican Americans on the U.S.-Mexico border.
- ❖ Underserved families in the Rocky Mountain region.
- ❖ Korean Americans on the West Coast.
- ❖ Migrant workers in South Florida's citrus groves.
- ❖ American Indians in New Mexico and Oregon.
- ❖ Elderly adults in multiple regions.
- ❖ Residents of rural Missouri, Appalachia, and several southeastern states.

Prevention Research Successes Across the *Lifespan*



Helping Children Become Healthy Adults

Researchers at the University of Texas Health Science Center's Prevention Research Center participated in designing and testing the curriculum for CATCH, the Child and Adolescent Trial for Cardiovascular Health, which was first funded by the National Institutes of Health. The improvements found in children's nutrition and physical activity encouraged the center to explore the promotion of CATCH statewide. The center trained school staff to implement the program, and it now reaches over 750,000 children in Texas. The dissemination of CATCH helped increase awareness of coordinated school health programs and their role in building a foundation for lifelong health. In 2001, the Texas state legislature passed a bill authorizing the state Board of Education to require all school systems in Texas to provide 30 minutes per day of school-based physical activity, to form a school health advisory council, and to implement a coordinated school health curriculum. The Texas Education Agency approved CATCH for this purpose, and CATCH is also being used in seven other states.



Addressing Childhood Obesity

The Harvard University Prevention Research Center developed an interdisciplinary curriculum called Planet Health for public middle schools focused on increasing physical activity and consumption of fruits and vegetables as well as decreasing television viewing and consumption of high-fat foods. For both girls and boys, television watching was reduced significantly, and for girls, the prevalence of obesity significantly decreased. The Planet Health curriculum is now used in hundreds of middle schools in the Boston area. Other interested parties in 48 states and 20 countries have purchased 2,000 copies of the curriculum. An independent economic analysis found that every dollar spent on the program in middle school will translate to a savings of \$1.20 in medical costs and lost wages when the children reach middle age.

Reducing Smoking Among Appalachian Teens

The American Lung Association's (ALA's) quit-smoking program for teens, Not on Tobacco (NOT), was proven successful for students in urban schools. West Virginia University's Centers for Public Health Research and Training completed a 5-year project to test NOT among teens in rural Appalachian schools. The student participants learned techniques to reduce stress, handle peer pressure, control nicotine cravings, eat well, and engage in regular exercise. After 3 months, the quit rate was almost four times higher for NOT students than for comparison students. As a result, many participating schools are maintaining the program. The ALA began distributing NOT to schools throughout the country, and the program is now being used in 47 states. Further, the University of North Carolina's Center for Health Promotion and Disease Prevention is now working with its West Virginia colleagues to adapt NOT for American Indian communities in North Carolina, where smoking rates are among the highest in the nation. NOT is recognized by the Substance Abuse and Mental Health Services Administration, which lists it as a Model Program. The agency will support the provision of "materials, training, and technical assistance for nationwide implementation."



Motivating Adult Residents for Community Health Promotion

The Saint Louis University Prevention Research Center is helping residents of Missouri's Ozark and Bootheel regions reduce their risk for chronic disease. With the help of local coordinators, the researchers established and trained 12 community coalitions in the regions. The coalitions join businesses, organizations, schools, and medical facilities in a variety of health promotion activities, such as health fairs (which have attracted more than 10,000 school children and their families), health screenings (for cholesterol and blood pressure), and health education programs. Residents increased their level of physical activity by using 1 of the 25 coalition-built community walking trails or participating in coalition-sponsored physical activity classes or sports teams. In fact, physical activity was nearly 7 percent greater among people who had walking trails available than among people in a control community. The coalitions also helped establish smoke-free policies.

Promoting Healthy Aging

In 1993, the University of Washington Health Promotion Research Center collaborated with the Group Health Cooperative of Puget Sound and Senior Services of Seattle/King County to develop a physical activity program for seniors. The program emphasizes activities to increase endurance, strength, balance, and flexibility. The pilot study showed that participants improved significantly in almost every area tested—from physical and social functioning to levels of pain and depression. The health care costs of participants were significantly reduced. An economic analysis of Medicare enrollees showed that those who participated in the Lifetime Fitness Program at least once per week had significantly fewer hospitalizations (by almost 8 percent) and lower health care costs (by \$1,057) than nonparticipants. The program is now being offered at 64 community sites in 6 states. The National Council on Aging recognizes the program as one of the top 10 physical activity programs for U.S. seniors. Further, the program has been translated into Chinese for launching in China by its Ministry of Health.

PREVENTION PROFILE

Improving Health Among Fathers and Sons

Willie Smith, Jr., and his 10-year-old son Willie III both live in Flint, Michigan, but not in the same household. Although Mr. Smith has lived apart from his son for most of his son's life, he has worked hard on their weekends together to build a good relationship.

When Mr. Smith, who works in social service, learned through a colleague about the University of Michigan Prevention Research Center's Fathers and Sons Project, a community-based participatory research project, he saw his and Willie's participation as a chance to grow even closer. The researchers designed the project to test whether frequent, positive contact between boys and their nonresident fathers can increase healthy behaviors in both groups and prevent substance abuse, violent behavior, and early sexual initiation among boys.

Mr. Smith and Willie joined the eighth of the now 20 father-son groups invited to improve their communication, explore their African American cultural perspectives, and practice skills—parenting by fathers and peer refusal by sons.

"The violence portion—I had never thought about that," Mr. Smith said. "And cultural heritage—I had

never discussed that with my son before." During the program's role-playing activities, the father-son pairs practiced the newly learned behaviors.

Talking about his son's relationships with other children, Mr. Smith said, "Willie saw it was not only okay to say no but to come back and tell me about it. He felt comfortable enough to talk to me about what happened."

Mr. Smith continued, "As parents, we try to *tell* our children to do things to minimize their hurt and trials. In going through this program, I got a better understanding of how Willie *felt*, so it's not just me *telling* him things."



Mr. Smith asked the researchers if his agency, which focuses on HIV/AIDS prevention and case management, could host a group at its location. Mr. Smith is now a trained program facilitator, and he is one of the leaders of the Fathers and Sons support group, which was spearheaded by former participants to keep the "extended family" together. The group is seeking nonprofit status for outside funding that would allow long-term program evaluation. "I believe," Mr. Smith said, "it can change some lifelong negative behaviors."

Investment in the Prevention Research Centers has gained nearly 20 years' worth of achievements in using research to improve health policy and practice for all Americans.

Examples of Issues AND Contributions

Health Issues Addressed

- ❖ Issues of aging.
- ❖ Healthy youth and school health.
- ❖ Conditions such as asthma, arthritis, and epilepsy.
- ❖ Major health threats such as obesity, cancer, and cardiovascular disease.
- ❖ Prevention and control of diabetes and its complications.
- ❖ Promotion of physical activity and healthy diet.
- ❖ Prevention of HIV/AIDS.
- ❖ Workplace safety.
- ❖ Oral health.
- ❖ Prevention of tobacco use.

Additional Contributions

- ❖ Offer access to a national network of experts in all the medical, science, and social science disciplines needed for prevention research, including epidemiology, statistics, behavioral science, and evaluation.
- ❖ Encourage networking and collaboration among researchers across the country.
- ❖ Educate public health professionals and community representatives through conferences, institutes, and CDC seminars.
- ❖ Partner with categorical programs at CDC and other federal agencies.
- ❖ Encourage research in the social determinants of health disparities.
- ❖ Cosponsor a fellowship for doctoral-level students of minority ethnic or racial origin for research mentored by centers and their community partners.
- ❖ Leverage infrastructure support to secure funding from other sources, such as foundations.

Myra Fielding knew that smoking wasn't good for her; after all, her father died from emphysema. Twice she had tried to quit, and at age 57 she was nearly resigned to being a lifelong smoker. Now, 3 years have passed and she hasn't had a single cigarette.

An employee of Griffin Hospital in Derby, Connecticut, Ms. Fielding read in the employee newsletter about a community study the Yale University-Griffin Hospital Prevention Research Center was starting in the fall of 2000.

"This time, I truly wanted to stop," Ms. Fielding said. "Prices had gone up, and I was spending more than fifty dollars a week on cigarettes. What I can do with that money! And I was just burning it up."

In the prevention center's study, Ms. Fielding says she found enormous support. First she answered a survey that "felt out" her concerns about quitting. Was she worried about anxiety? Did she think she was addicted? Ms. Fielding was afraid of gaining weight if she stopped smoking.



"They offered assorted programs to help make you successful. For some people, it was yoga or relaxation techniques. For me, it was nutrition counseling and exercise," she explained. "I went to group counseling sessions every week for six months and then once a week for six months. I made it, and so did others! We had been looking for every excuse...."

Ms. Fielding also found joining the research cost-effective. "An HMO won't even cover a [nicotine] patch or gum," she said, "and everything I needed was paid for."

The benefits for Ms. Fielding continue: she clocks 1 mile on the treadmill every morning and lost 25 pounds this year.

The Yale-Griffin Prevention Research Center has had repeated success in testing multiple approaches to smoking cessation. While most such programs are about 25 percent successful, the researchers found that more than 40 percent of participants quit smoking after 1 year. Similar programs are now in progress at work site and high school settings.

Prevention Research Centers' *Core Projects*

Alabama

University of Alabama at Birmingham

Building community capacity for health in Alabama's black belt

Arizona

University of Arizona

Reducing diabetes in communities on the U.S.-Mexico border

California

San Diego State University

Increasing physical activity in Latino families around Tijuana

University of California at Berkeley

Improving health in California's Korean American community

University of California at Los Angeles

Promoting adolescent health in African American and Hispanic families

Colorado

University of Colorado

Advancing healthy lifestyles in underserved Rocky Mountain communities

Connecticut

Yale University

Addressing health disparities in rural and urban Connecticut

Florida

University of South Florida

Using community-based prevention marketing for health promotion

Georgia

Emory University

Reducing health disparities in rural southwest Georgia

Morehouse School of Medicine

Building community capacity to promote health in southeast Atlanta

Illinois

University of Illinois at Chicago

Evaluating interventions to reduce diabetes in inner-city communities



Iowa

University of Iowa

Helping communities in rural Iowa improve their residents' quality of life

Kentucky

University of Kentucky

Controlling cancer in central Appalachia

Louisiana

Tulane University

Changing the environment to increase physical activity in low-income New Orleans

Maryland

The Johns Hopkins University

Integrating health promotion into existing programs for Baltimore's youths

Massachusetts

Boston University

Improving the health and well-being of Boston's public housing residents

Harvard University

Preventing cancer in Massachusetts' communities

Michigan

University of Michigan

Examining social determinants of health in low-income Michigan counties

Minnesota

University of Minnesota

Identifying best practices for adolescents' healthy development

Missouri

Saint Louis University

Maintaining rural community coalitions to prevent chronic diseases

New Mexico

University of New Mexico

Improving nutrition and physical activity among Navajo elders

New York

Columbia University

Bridging the digital divide for health in Harlem

State University of New York at Albany

Preventing chronic disease through community interventions

University of Rochester

Understanding health risks among the deaf and hard of hearing

North Carolina

The University of North Carolina at Chapel Hill

Reducing obesity among ethnic minority women in rural North Carolina

Oklahoma

University of Oklahoma

Promoting health and preventing disease among Native Americans

Oregon

Oregon Health & Science University

Addressing vision and hearing loss in American Indian communities

Pennsylvania

University of Pittsburgh

Promoting health and preventing disease among older adults

South Carolina

University of South Carolina

Changing policies and environmental conditions to support physical activity in underserved communities

Texas

University of Texas Health Science Center at Houston

Studying how adolescents' health choices affect their later lives

Texas A&M University

Preventing diabetes in underserved rural communities

Washington

University of Washington

Sustaining physical activity among older adults

West Virginia

West Virginia University

Improving health among rural teenagers





For more information, please contact the
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